

## COMMENTS ON RESEARCH DIRECTIONS IN PARAPSYCHOLOGY

To focus thinking about the development of parapsychology and its eventual use as an information source, we list some possible sequential stages by which the field may progress to a more mature state. These stages are only roughly independent but represent a useful first approximation.

1. Establish the existence of the phenomena and identify its manifestations.
2. Establish the significant factors which influence the process, i.e., determine referents which influence and modify the occurrence of these effects.
3. Through development of measurable characteristics of the phenomena and measurable referents gain experience with manipulation and reproducibility, thus assessing reliability and determining methods of enhancement or inhibition.
4. The foregoing will require the development of quantification techniques both for the information transmitted and for its reliability. These quantifications will almost certainly be probabilistic.
5. Develop rational techniques for the use of ESP information based upon probabilistic quantification of its content and reliability, i.e., decision theory in this context.

Parapsychology impinges upon three fields; physics, physiology, and psychology, with mathematical analysis serving all three. Little progress has been made to date in understanding the physical aspects of parapsychology, although- as mentioned in previous reports- the work of Costa de Beauregard offers a rational interpretive physical scheme which cannot, as yet, be called a theory. Present experimental efforts are primarily psychological, but physiological work is beginning to assume an increasing importance in providing more direct and less ambiguous measurements as well as serving to identify the mental states ( or psychological variables) involved, independent of verbal descriptions and rather unreliable measurements of purely psychological type.

In terms of the stages above, stage 1 has already been achieved and work directed toward establishing the phenomena is largely redundant. At present the most fruitful work is concerned with stages 2 and 3 and there is a beginning to stage 4. Well conceived psychological experiments are beginning to monitor and quantify numerous important physiological variables. As yet there has been only a beginning of experiments designed to quantify information transmission in this context and to quantify the statistical significance of possible referents. There is need for some high quality mathematical work. An encouraging aspect of good present work is the use of automated devices for the scoring and analysis of tests. These devices insulate test subjects ~~from~~ the "clinical" atmosphere and reduce the everpresent possibility of fraud.

To conclude, experiments which at present would contribute maximally toward the maturation and eventual practical use of parapsychology should be characterized by: (1) careful monitoring and attention to psychological and physiological variables ( physical sensory isolation assumed) in order to identify and quantify significant factors, (2) interpretation of results and design of experiments in terms of quantitative measures of information transmitted and overall probabilistic models of information reliability.

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